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LABOR REQUIREMENTS FOR PRODUCING CERTAIN CALIFORNIA SUBTROPICAL FRUITS

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This leaflet presents an analysis of the man-hours of labor required in producing the more common California subtropical fruits. The re-

and the pounds of product produced per man-hour, based on state average yields and what are considered to be good commercial yields.

TABLE 1

Man-Hours of Labor Required per Acre for State Average Yields of Certain
California Subtropical Fruits, 1938-1941*

Operations	Lemons, 240 packed boxes† (19,200 pounds)	Oranges, 201 packed boxes† (15,075 pounds)	Grapefruit, 142 packed boxes† (9,656 pounds)	Avo- cados, 1.06 tons (2,120 pounds)	Olives, 2.06 tons (4,120 pounds)	Dates, 1.55 tons (3,100 pounds)	Figs, drying 0.7 ton (1,400 pounds)
Cultural labor:							
Pruning and brush disposal	31	13	8	5	12	18	8
Planting covercrops	1	1	0	0	0	1	0
Fertilization	2	2	1	2	2	1	0
Pest and disease control	9	9	0	0	5	3	1
Cultivation	6	6	6	2	5	12	3
Irrigation	20	20	16	20	10	26	2
Frost protection	15	8	0	0	...	...	...
Pollination	...	...	...	...	...	22	4
Thinning and tying	...	...	...	...	...	16	...
Placing bags	...	...	...	...	...	16	...
Miscellaneous	6	6	3	2	3	8	2
Total cultivation	90	65	34	31	37	123	20
Harvest labor:							
Picking	170	80	35	20	100	94	12
Hauling	10	7	3	1	3	4	2
Drying, sorting, etc.	...	...	...	...	...	0	26
Total harvest	180	87	38	21	103	98	40
Grand total	270	152	72	52	140	221	60
Pounds per man-hour	71	99	134	41	29	14	23

*State average yields computed by S. W. Shear, Associate Agricultural Economist in the Experiment Station and on the Giannini Foundation, from estimates of the California Crop and Livestock Reporting Service on bearing acreage and production, except yields for dried figs, which are based partly on unofficial data.

†Net weight of fruit per packed box: lemons, 80 pounds; oranges, 75 pounds; grapefruit, 68 pounds.

sults may be useful in determining the relative efficiency of production. Production labor in this analysis includes all operations in growing and harvesting the crop and delivering it to the packing house. Packing, grading, processing, and marketing are not included.

Yields per acre and inputs of labor are based on the four-year period 1938-1941. The tables show the man-hours of labor required per acre

The box headings of table 1 show the state average yields per acre; those of table 2 indi-

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cate what are considered to be good commercial yields.

The citrus crop is disposed of in the fresh-fruit market in packed or loose-packed boxes and as loose or bulk fruit. The poorer grades of fruit are sold for juice and by-products. The yield per acre has been computed to a packed-box equivalent.

The olive crop is canned, or utilized for olive oil. Since labor requirements vary for different utilization, they are shown in table 2 for olives used in oil making and in canning. A special classification is set up for the Queen type olive for canning. This is based on methods of production and costs in the Sacramento Valley.

The fig crop has three market outlets--fresh, canning, and drying. Since labor requirements and yields vary with the different varieties and the different ways in which they are marketed, table 2 gives three classifications: (1) Adri-

atic and Mission for drying, (2) Calimyrna for drying, and (3) Kadota for canning.

The man-hour data in the tables were developed from California Agricultural Extension Service enterprise-efficiency studies and current field inquiry among growers. Since each crop was treated objectively on a comparable basis, the figures obtained may be used to compare one crop with another. The schedule of hours is designed to fit the yield indicated. The hours of work are those required with adult skilled labor utilizing field power normally used in this period. Methods and operations vary widely in different parts of the state. Frost protection is required in some areas, but not in others. Pest control is another example of wide variation in labor requirements. The hours indicated in the tables are an average of all acreages.

State average inputs and yields show lower production per hour of man labor than that obtained from good commercial orchards.

TABLE 2

Man-Hours of Labor Required per Acre for Good Commercial Yields of Certain California Subtropical Fruits, 1938-1941

Operations	Lemons, 300 packed boxes* (24,000 pounds)	Oranges, 250 packed boxes* (18,750 pounds)	Grape- fruit, 325 packed boxes* (22,100 pounds)	Avo- ca- dos, 6,000 pounds	Olives			Dates, 8,000 pounds	Figs		
					For oil, 8,000 pounds	Can- ning, 8,000 pounds	Can- ning + (Queen) 4,000 pounds		Drying (Mission and Adriatic), 2,500 pounds	Drying (Calimyrna), 1,800 pounds	Canning (Kadota), 12,000 pounds
Cultural labor:											
Pruning and brush disposal	31	13	8	5	12	12	11	22	10	10	36
Planting cover-crops	1	1	0	0	0	0	1	2	0	0	0
Fertilization	2	2	1	2	2	2	2	2	0	0	1
Pest and disease control	9	9	4	0	10	10	0	3	1	1	3
Cultivation	6	6	6	3	5	5	6	12	3	3	7
Handwork (suckering, etc.)	0	0	0	0	...	...	...	...	1	1	1
Irrigation	20	20	16	21	20	20	20	30	2	2	10
Frost protection	30	16	8	0	...	...	...	...	...	...	...
Pollination	...	...	...	...	...	...	...	28	...	17	...
Thinning and tying	...	...	...	...	...	...	...	20	...	...	...
Placing bags	...	...	...	...	...	...	...	20	...	...	...
Miscellaneous	6	6	6	3	3	3	4	12	2	2	3
Total cultivation	105	73	49	34	52	52	44	151	19	36	61
Harvest labor:											
Picking	200	93	65	47	144	204	124	180	21	15	158
Hauling	13	9	6	3	6	6	6	6	2	2	21
Drying, sorting, etc.	...	...	...	...	...	...	...	0	33	24	18
Miscellaneous	0	0	0	0	0	0	0	0	6	4	4
Total harvest	213	102	71	50	150	210	130	186	62	45	201
Grand total	318	175	120	84	202	262	174	337	81	81	262
Pounds per man-hour	75	107	184	71	40	31	23	24	31	22	46

*Net weight of fruit per packed box: lemons, 80 pounds; oranges, 75 pounds; grapefruit, 68 pounds.

†In Sacramento Valley.